MOTOROLA

GP68

Operation Guide

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- Dealer operation
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- Editing SPM
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GP68 Special Programming Mode

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The Special Programming mode (SPM) allows you to edit all user-modifiable parameters within your radio, such as the Channel Scan list, Phone Access/Deaccess codes, and Alert Tone Settings. Certain parameters (such as the Selective Call Tone Status) are only accessible with the installation of an option board. Upon entry to the Special Programming mode, the radio initiates the SPM Browse menu which provides you with a menu of available parameters and their current settings.

To Enter the Special Programming Mode

1. Turn the radio on while holding down and keep holding until the radio sounds a ringing SPM start-up tone (takes about 3 seconds). At power-up, all display segments light for about 2 seconds.

2. If the battery voltage level is low, the display indicates and the 'BATT' Indicator flashes The radio also sounds a llow battery alert tone. You must turn off the radio and replace, or recharge, the batteries.

3. If the batteries are above the threshold level, the radio enters the SPM Browse menu and the LCD displays the first menu item (i.e., the first parameter that card be modified). The first menu item is Edit Channel Scan List (ScnL .St).

4. When In the SPM Browse menu, rotate the selector switch clockwise or counter clockwise to view the available parameters

To Exit the Special Programming Mode

1. To exit the Special Programming mode, you must turn the radio off then on again.

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Edit the Channel Scan List

1. Rotate the selector switch to select the St menu item.

2. Use or to scroll through the channels (01 to 20).

A flashing channel number indicates that the channel is excluded from the scan list A channel number that lights oontinuously indicates the channel is included in the scan list For example, a display showing . with flashing digits indicates that channel 1B is excluded from the scan list

3. Press the Toggle Light/Enter Button to toggle the state of a channel in the scan list from included to excluded, or from excluded to Included.

4.To exit the scan list edit mode, select another menu item by fuming the selector switch.

Edit Phone Access/Deaccess Codes

1. Rotate the selector switch to select the appropriate menu item.

2. Press any key (except the Toggle Light/Enter Button) to enter the edit mode, The LCD displays the currently programmed access/deaccess code. For a code which exceeds the 6-digit display length, the rightmost digit flashes to indicate more digits exist on the right.

You can now change or enter digits as required, up to a maximum of 8, using any of the numeric keys, as well as the *,#,A,B,C,and D keys.The flashing cursor indicates the position of the next digit to be entered

3.To change the access/deaccess code, Use or to scroll. through the existing code's digits and to erase unwanted digits then enter the new digits. The display shows the new digits as they are being entered When the flashing cursor is under a digit the maximum number has been entered.

4. One or more 'pause' digits can be entered between successive digits of phone access /deaccess codes by pressing immediately followed by . A pause digit is displayed as '-' (a dash). A pause digit causes the radio to wait in between transmission of the DTMF tones programmed before and after the pause.

5.Press the Toggle Light/Enter Button to store the new code and return to the SPM Browse menu

6.To abort the data entry, select another menu item by turning the selector switch or wait until the edit mode times-out (after 5 seconds of inactivity

Edit Time Out Timer

This menu item allows you to select the Time Out Timer length.

1. Rotate the selector switch to select the Edit Time Out Timer menu item. The

01,-02,...,-10. The default display of tot. 01 shows the time out timer setting of one minute.

2. Use or to change the current status.

3. To exit this menu, select another menu item by fuming the selector switch.

Set Selective Call Tone Status

1. Rotate the selector switch. to choose the 'Selective Call Tone Status' menu item. The LCD immediately iindicates the current SelCall Tone status as either Sc-On (On) or Sc-OFF (Off).

2. Use or to toggle between 'On' end 'Off' The new (displayed) status is saved immediately.

3.To exit this menu, select another menu item by fuming the selector switch.

Set Sidetones Status

1. Rotate the selector switch to select the 'Sidetone Status' menu item. The LCD immediately indicates the currrent Sidetone status as either St-On (on) St-OFF (Off)

2. Use or to toggle between 'On' and 'off' as required. The new (displayed) status is saved Immediately.

3. To exit this menu, select another menu item by turning the selector switch.

Set Alert Tone Volume

1. Rotate the selector switch to select the 'Alert Tone' menu item. The LCD immediately indicates the current Alert Tons status es either Rt-OFF (Off) or Rt-On (On).

2. Use or to change the cur current status The new (displayed) status is saved immediately

3. To exit menu, select another menu item by fuming the selector switch.

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If your radio is equipped with the Voice Selective Call option, your radio can be called individually by another user, or as part of a small group.

Receiving a Voice Selective Call

1. When the radio decodes a Voice Selective Call, the LCD indicates the type of SelCall message being received as follows:

IIndividual call

Group Call

ALL Call

In the case of an Individual Call, you hear two short ringing tortes. For other calls, you hear two medium pitched 'beeps'.

NOTE: Alert tones are not heard if either SelCall Tone Status or Alert Tone VoP ume is set to 'Off'.

2. For an Individual Cal, the radio automatic ally transmits an Acknowledgement message back to the calling radio, If an Acknowledgement ID has been preprogrammed by the dealer. When the radio decodes a Voice Selective Call, it enters the carrier squelch mode for a period of time. If there is no receive activity the radio do resumes the selected squelch mode and the LCD reverts 20 the appropriate ate receive mode display.

IMPORTANT: If you change the selector switch or press any buttons while the Selective Call signal is in progress, the SelCall message disappears and the Select tive Call is lost.

Sending a Voice Selective Call

1. Press and hold PTT, then dial the required Selective Call ID.

2. Release PTT and await a response.

NOTE: For an Individual Call,. the redo Indicates that the call was received with two short ringing tone.

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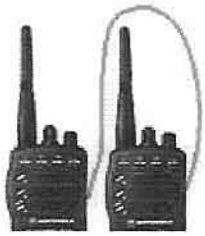
Cloning duplicates the contents of Radio 1 (master radio) Into Radio 2 (slave radio). OnSy current radio configuration, channels and phone numbers are copied from one radio to another. Tuning and alignment information are not affected by cloning. You need a cloning cable in order to peform thIf operation.

SCI

SCI stands for Serial Communications Interface; it If used to configure the GP68 radio and for radio to radio cloning. The SCI port If located at the side of the GP68 radio below the accessory connector

To Clone a Radio



1. Lift the slap covering the SCI port of the master radio.

2. Insert the cloning cable jack into the SCI port

3. Repeat steps one and two with the other end of the cloning cable and the sieve radio. This connects both the master and slave radios.

4. Turn on the slave radio.

5. Turn on the master radio while pressing

6. The master radio will display the following message If cloning can proceed, otherwise an error message will be shown (refer to'Error Conditions" on page 40)

7. The slave radio displays the following massage while It If being programmed.

If battery level If low, the slave radio will display and you will need to replace or recharge the battery before repeating the procedure.

8. When cloning If completed, both radios will reset automatically .

9. Disconnect radios from the cloning cable and they are ready for operation.

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placing a Telephone Call

To place a call using manual access/ deaccess codes:

1. Press and hold PTT and then dial the access code using the DTMF keys.

2.Release PTT sod wait for a dial tone.

3A. After dial tone is heard press and hold PTT and dial telephone number
Or
3B. If your radio has preprogrammed telephone numbers, press and hold PTT, press MEM then press the number button that stores your preprogrammed telephone number

4.Conduct conversation with other party. Press PTT to talk release PTT to listen.

5. To hang up, press and hold PTT and then dial the deaccess c ode.

To place a call using preprogrammed access/deaccess codes:

1. Press and hold PTT, press MEM and then press 8 * to send the preprogrammed access code.

2. Release PTT and wait for a dial tone.

3A. After dial lone is heard, press and hold PTT sod dial phone number

OR

3B. If your radio has preprogrammed telephone numbers press and hold PTT, press MEM, then press the number button that stores your preprogrammed telephone number

4. Conduct conversation with other party. Press PTT to talk release PTT to listen.

5. To hang up, press and hold PTT, press MEM and then press # to send the preprogrammed deaccess code.

To Store a Phone Number

1.Press and hold MEM until the radio sounds a second valid keypress tone (takes about 2 seconds)

The LCD display indicates that the radio is ready to accept a one-digit , entry.

2. To store a phone number, enter a phone number location. in the range 1 to 9, using the numeric keypad. To store the access code press * To store the deaccess code, press #.

3. Enter the phone number (up to 12 digits long), or access/deaccess code (up to 6 digits long), using the numeric keypad. Valid digits are DTMF digits O to 9, the characters A, B, C, D, * and #, end 'pause' digits (see next step). AG undefined digits are represented by underscores on the LCD. A flashing cursor (underscore) indicates the position for the next number entry if you reach the maximum number of entries, the cursor position is under the last digit

4. One or more pause digits can be entered between successive digits of the phone number (or access /deaccess code) by pressing * immediately followed by #. A pause digit is displayed as '-' (a dash), end causes the radio to wait in between transmission of the digits programmed before and after the pause.

5. If you make a mistake, use to scroll the cursor to the left and anise the incorrect entry.

6.To view a numeric sequence more than 6 digits use or to scroll the cursor to the left or right

7. Press the Toggle Light/Enter Button to store the phone number (or access/deaccess code) into the designated location and return to normal operator.

Last Number Redial

Manually dialed phone numbers (up to 16 digits long) are stored in numeric location for quick redial capabilities.

They are sent exactly as preprogrammed telephone numbers are. After you receive a dial tone, press and hold PTT, press then press the number button '0'

To Display a Stored Phone Number

1. Press momentarily in the receive mode.

2.Enter A one-digit phone number location , in the range 0 lo 9, using the numeric keypad. To view the access code press * To view the deaccess code, press #.

If the keypad entry is valid, the e LCD displays the first 6 digits of the stored phone number or code. For number sequences greater than 6 digits, after 2 seconds the number begins autoscrolling to the left in 1 second Increments until the last digit is displayed

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To Scan Channels

1.Press SCAN momentarily to begin channel scanning.

When the 'SCAN' indicator flashes. channel scanning is in progress and the 'Home' channel is displayed (until activity is received on another channel).

2. Initially, the channels are scanned in an increasing order (from lowest to highest). To scan in a decreasing order, rotate the selector switch counter-clockwise To change the direction back to an increasing order. rotate the selector switch clockwise.

The radio scans through all channels that are in the seen list If receive activity is detected on a channel, the 'SCAN' indicator remains on, the channel number is displayed and the conversation can be heard, provided the PL/DPL code (if required) is correct for that channel.

The display reverts to the 'Home' channel and scanning resumes when activity is over and a 7second 'hang time' has expired.

3. To stop scan operation, press SCAN momentarily.

The 'SCAN' indicator turns off to indicate scanning is terminated and the radio displays the 'Home' channel.

To Transmit During Scanning

1. When keying the radio cor responding to a received message during channel press PTT as you normally would.

Talk Back Scan

The Talk Back Scan feature is used when PTT is pressed while the radio has stopped on a channel When transmit or receive activity ceases on a scanned channel, a "hang time" of approximately 7 seconds occurs prior to the radio resuming scan. This hang time gives the radio time to receive again or gives you time to respond to a call on the locked channel before scanning resumes.

Home Revert Scan

If you press PTT while the he radio is scanning (i.e. the scanner is not locked on any channel), transmission occurs on the "Home" channel (ie. the channel that was active when the scan operation was initiated). After Home transmit and receive activity ceases the radio resumes channel scanning after the hang time has expired.

Nuisance Channel Delete in Scan

When the radio scans to a channel that you do not wish to hear, you can temporarily remove the channel from the scan list using the Nuisance Channel Delete feature.

1. With the scanner locked on the unwanted signal, press and hold for about

2 seconds.

2. To add a deleted channel back into the scan list, you must exit and reenter the scan function or turn the radio off and on.

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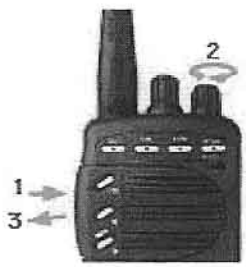
Turn Radio On
Rotate rotary knob clockwise to turn radio on.

Turn Radio Off
Rotate rotary knob counter-clockwise until a click is hears to turn radio off.

Adjust Volume

1. If there is no receive audio, press end hold the Monitor Button until you hear background noise.
2. Continue to hold the Monitor Button and adjust rotary Knob for desired volume level.
3. Release the Monitor Button to squelch radio again



To Select a Channel

1. Rotate the selector switch clockwise to increase or counter-clockwise to decrease, the channel number.

The channel number increments, or decrements according to the available program mmed memory channels (i.e.. empty channels are NOT displayed).

Locking/Unlocking the Keypad

1. Press and hold to lock (or unlock) the keypad and selector switch (takes about 2 seconds).
2. If you attempt to press a key other than or rotate the selector switch while the keypad is locked, the LCD displays and no action is taken.

High/Low Power Output

1. Press to toggle between High and Low power output levels.

The LOW Indicator is on when the radio is set for Low power Output mode and off when the radio is set for High power output mode.

The BATT indicator in the LCD continously flashes whenever the radio has a tow battery condition (in receive or transmit mode).

A low battery condition is also indicated by three low-pitched beeps, repeated every two minutes.

Display Backlight

The LCD has a backlight which is activated when the toggle Light/Enter Button is pressed. The LCD backlight turns off 5 sec. onds after the last user activity or, if Toggle Light/Enter Button is pressed, the backlight turns off immediately (pressing Toggle Light/Enter Button will always toggle the status of the backlight).

PTT ID

If programmed, the radio transmits a DTMF identification code (unit ID), indicating which portable is in operation.

During a oonversation, the code is normally sent only on the initial PTT press (unless PTT ID has been disabled). The 'TX' indicator lights for the duration of the PTT ID. If there is no PTT or receive activity for 7 seconds, or if you change the channel (or scan resumes), the PTT ID is once again transmitted on the next PTT press.

NOTE: PTT ID can be enabled/disabled by pressing and holding # .

Upon pressing the button you will hear a beep; hold the button down until you hear a second beep, indicating that the PTT ID status has been changed, then release the button. When PTT ID is disabled the 'dot' indicator flashes on the display.

To Transmit

1. Depending on the mode of operation, select the desired channel (refer to the next section for details on selecting a channel).
2. Do not interrupt another user. If the selected Channel is programmed to receive PL, press and hold the Monitor Button to enter monitor mode. and listen for channel activity. The channel must be clear before transmitting.
3. Press PTT.
   The "Tx" indicator lights up whenever radio transmits, and goes off when PTT is released.
4. Hold radio upright while speaking clearly into the microphone.

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To Receive

1. Release PTT to hear voice activity on selected channel.

To Change Squelch Modes

Carrier squelch (CSQ). Tone Private-Line (PL) and Digital Private-Line (DPL) operations are available on a per channel basis. As an option, Signaling squelch (SelCall) operation is available on a per channel basis.

You can override the default receive squelch mode for the channel temporarily.

To override squelch mode:

1. Press to change between CSQ,, Coded (PL/DPL) and Signaling squelch modes.

To Set Squelch Level

1.Press to enter the squelch edit mode.

The squelch is displayed in the range '00' (open squelch) to'15' (tight squelch).). In the following example, the squelch level is '02':

2. Rotate the seiector switch clockwise to increase, or counter clockwise to decrease the displayed squelch level.

3. Press the Toggle Light/ Enter Button momentarily (or any other button) to adopt the selected squelch level and return to normal operating mode (the radio automatically does this after 5

The new squelch level is adopted.

When ' TCSS' is off, the radio operates in CSQ mode.

When "CTCSS' is on oontinuously, the radio open ales in Coded (PL/DPL) squelch mode.

When "CTCSS' is flashing (which requires an optional Selective Call board), the radio operates in Signalling squelch mode, and unmutes only after a valid Voice Selective Call (SelCall) has been decoded.

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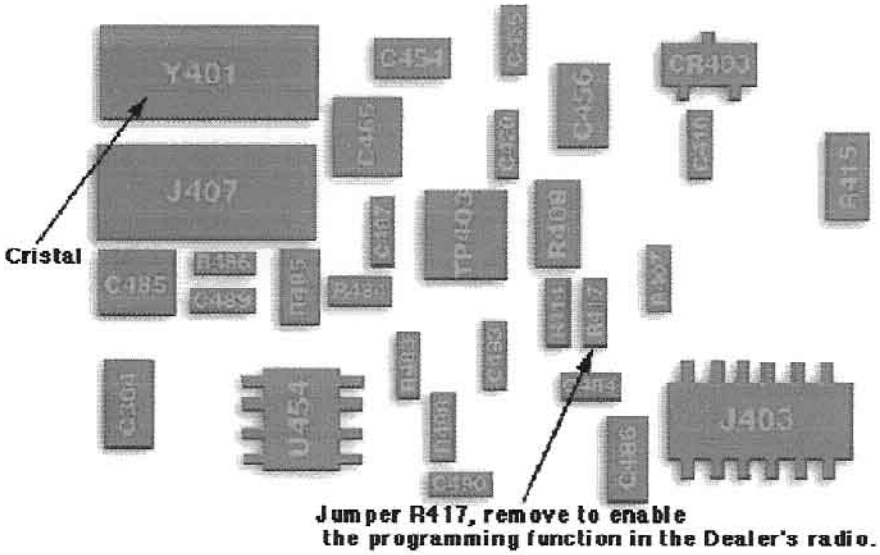
- To Enter Dealer Programming Mode
  - Switch Radio Off
  - Hold Down the PTT Monitor and Scan Buttons While Turning the Radio On
  - Proceed to Program Radio
- When Programming is Complete
- Exit Dealer Programming Mode
  - Switch Radio Off
  - Hold Down the PTT, Monitor and Enter Buttons While Turning the Radio On

Note:

- When the GP68 is in programming mode it is still fully operation i.e transmit and receive e.t.c
- When the GP68 is in programming mode it will not transmit or receive until you exit from dealer programming mode

Overview of the Programming Process

The following procedures assume that you have read and understood the basic operation of of the GP68 from the GP68 User's ManuaL A Dealer's radio is the radio where all the necessary options are programmed into. A User's radio is the radio whose options are cloned from the Dealer's radio; it is this radio that is given to the customer. Remove jumper R417, only if you want the radio to stay in programming mode. Do not forget to replace jumper R417 in order to exit programming mode.



IMPORTANT

If the Dealer's radio is to be given to the customer, remember to place R417 with a 51K resistor to disable the programming function

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To Select the Receive PL/DPL Code

1. Press and hold until the LCD displays 'rPL" followed by the active Receive PL code number (takes about 3 seconds). In the following example (Figure 4-13), the Receive PL/DPL code is 014.

2.Rotate the selector switch clockwise to increase, or counter clockwise to decrease, the active Receive PL/DPL code.

3. Momentarily press any key to immediately adopt the selected Receive PL/DPL code and return to normal operating mode (the radio automatically does this after 3 seconds of inactivity).

The new Receive PL/DPL code is adopted.

To Select the Transmit PL/DPL Code

1.Press and hold until the LCD displays 'rPL." followed by the active Receive PL code number (takes about 3 seconds). Press momentarily to toggle the display to 'tPL." followed by the active Transmit PL code number You can toggle between editing of the Receive and Transmit PL/DPL by pressing momentarily. In the following example (Figure 4-16), the Transmit PL/DPL code is 020.

rPL XXX tPL XXX	PL FREQ (Hz)	EQUIV. PL CODE
000	CSQ	-
001	67.0	XZ
002	69.3	WZ
003	71.9	XA
004	74.4	WA
005	77.0	XB
006	79.7	WB
007	82.5	YZ
008	85.4	YA
009	88.5	YB

rPL XXX tPL XXX	EQUIV. PL CODE
043	23
044	25
045	26
046	31
047	32
048	43
049	47
050	51
051	54
052	65

rPL XXX tPL XXX	EQUIV. PL CODE
084	311
085	315
086	331
087	343
088	346
089	351
090	364
091	365
092	371
093	411

010	91.5	ZZ
011	94.8	ZA
012	97.4	ZB
013	100.0	1Z
014	103.5	1A
015	107.2	1B
016	110.9	2Z
017	114.8	2A
018	118.8	2B
019	123.0	3Z
020	127.3	3A
021	131.8	3B
022	136.5	4Z
023	141.3	4A
024	146.2	4B
025	151.4	5Z
026	156.7	5A
027	162.2	5B
028	167.9	6Z
029	173.8	6A
030	179.9	6B
031	186.2	7Z
032	192.8	7A
033	203.5	M1
034	206.5	8Z
035	210.7	M2
036	218.1	M3
037	225.7	M4
038	229.1	9Z
039	233.6	M5
040	241.8	M6
041	250.3	M7
042	254.1	-

053	71
054	72
055	73
056	74
057	114
058	115
059	116
060	125
061	131
062	132
063	134
064	143
065	152
066	155
067	156
068	162
069	165
070	172
071	174
072	205
073	223
074	226
075	243
076	244
077	245
078	251
079	261
080	263
081	265
082	271
083	306

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095	413
096	423
097	431
098	432
099	445
100	464
101	465
102	466
103	503
104	506
105	516
106	532
107	546
108	565
109	606
110	612
111	624
112	627
113	631
114	632
115	645
116	654
117	662
118	664
119	703
120	712
121	723
122	731
123	732
124	743
125	734
126	754

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To Enter the Special Programming Mode

1. Turn the radio on while holding down and keep holding until the radio sounds a ringing SPM start-up tone (takes about 3 seconds). At power-up, all display segments light for about 2 seconds.

2. If the battery voltage level is low, the display indicates and the 'BATT' Indicator flashes The radio also sounds a llow battery alert tone. You must turn off the radio and replace, or recharge, the batteries.

3. If the batteries are above the threshold level, the radio enters the SPM Browse menu and the LCD displays the first menu item (i.e., the first parameter that card be modified). The first menu item is Edit Channel Scan List (ScnL .St).

4. When In the SPM Browse menu, rotate the selector switch clockwise or counter clockwise to view the available parameters

To Exit the Special Programming Mode

1. To exit the Special Programming mode, you must turn the radio off then on again.